DOCUMENT RESUME

ED 313 873 EC 221 742

AUTHOR Parsons, Marsha B.; Reid, Dennis H.
TITLE Assessing/Training a Choice-Making Skill To Allow Persons with Profound Mental Retardation To Express Food Preferences.
PUB DATE 89
NOTE 40p.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adults; Caregivers; Communication Skills; *Decision Making; *Food; Identification; Prediction; *Severe Mental Retardation; Skill Development; *Training Methods
IDENTIFIERS *Choice Behavior; *Food Preferences

ABSTRACT

This paper evaluates a program for assessing and/or training choice-making skills as a means of providing opportunities for adults with profound mental retardation to express food and drink preferences. In Experiment 1, the assessment/training procedure involving repeated, paired-item presentations, resulted in active choice-making and the identification of distinct preferences for all five participants. Results also indicated that the opinion of the participants' caregivers was not very predictive of which food and drink items the participants would choose when given an opportunity. A survey of 41 service providers supported the importance of persons with severe handicaps having meal-related choices, and indicated that this population has a relative lack of such choices. In Experiment 2, the practicality of the assessment/training procedure was supported by demonstrating that: (1) routine caregivers of 13 clients could apply the procedure to provide choice opportunities and identify preferences; and (2) results of the procedure were predictive of participant choices when provided with a less structured and more normal opportunity to express preferences during ongoing mealtimes. (19 references) (Author/JDD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED313873

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Assessing/Training A Choice-Making Skill to Allow Persons With Profound Mental Retardation to Express Food Preferences

Marsha B. Parsons and Dennis H. Reid
Western Carolina Center, Morganton, NC

Running head: ASSESSING/TRAINING CHOICES

EC 221742

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Marsha B Parsons
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

Abstract

Increased attention recently has been directed to methods of assisting persons with severe handicaps to express preferences concerning events in their lives. We evaluated a program for assessing and/or training choice-making skills as a means of providing opportunities for persons with profound mental retardation to express food and drink preferences. In Experiment 1 the assessment/training procedure involving repeated, paired-item presentations resulted in active choice-making and the identification of distinct preferences for all five participants. Results also indicated that the opinion of the participants' caregivers was not very predictive of which food and drink items the participants would choose when given an opportunity. A survey of service providers supported the importance of persons with severe handicaps having meal-related choices, and indicated that this population has a relative lack of such choices. In Experiment 2, the practicality of the assessment/training procedure was supported by demonstrating that: (a) routine caregivers (of 13 clients) could apply the procedure to provide choice opportunities and identify preferences and, (b) results of the procedure were predictive of participant choices when provided with a less structured and more normal opportunity to express a preference during ongoing mealtimes. Results are discussed in terms of enhancing the enjoyment that persons with profound disabilities experience during mealtimes.

Assessing/Training A Choice-Making Skill to Allow Persons With Profound Mental Retardation to Express Food Preferences

An area of growing concern in service provision for persons who have severe handicaps is client choice-making. The benefits of allowing individuals with severe disabilities to make choices and express preferences have been discussed frequently (Guess, Benson, & Siegel-Causey, 1985; Houghton, Bronicki, & Guess, 1987; Shevin & Klein, 1984). Researchers have also begun to identify specific procedures for providing choice-making opportunities and for reliably assessing preferences among this population (Mithaug & Hanawalt, 1978; Wacker, Berg, Wiggins, Muldoon, & Cavanaugh, 1985).

To date, the applied behavioral research on choice-related issues involving persons who have severe handicaps has resulted in several relevant outcomes. In particular, it appears necessary to formally conduct structured and systematic behavioral assessment processes that are specifically designed to provide choice opportunities for identifying preferences (Green et al., 1988). Systematic assessment processes appear necessary because of the impaired cognitive and communication skills of persons with severe disabilities (e.g., profound mental retardation) that prohibit the expression of preferences in a

manner typically used by nonhandicapped persons (Mithaug & Hanawalt, 1978; Reid & Hurlbut, 1977). Relatedly, traditional means of identifying client preferences such as reliance on the (subjective) opinion of caregivers often are not very predictive of what clients will actually do when provided with a choice-making opportunity (Favell & Cannon, 1976; Green et al., 1988). Another outcome of the research to date is that persons with severe disabilities do indeed have a variety of clear preferences when they are provided with a functional opportunity to express a preference (Green et al., 1988; Wacker et al., 1985).

Generally, applied behavioral research involving choice-making and preferences among persons who have severe handicaps has focused on two areas: leisure activities (e.g., Dattilo & Rusch, 1985; Wacker et al., 1985) and vocational situations (e.g., Mithaug & Mar, 1980; Parsons, Reid, Reynolds, & Bumgarner, 1989). An additional area in which choice-making may be particularly important is mealtimes and especially, food and drink consumption. Mealtimes are generally considered to be a very important component in the overall quality of life of an individual (Perske, Clifton, McLean, & Stein, 1977), and the ability and/or opportunity to choose what one eats or drinks can significantly affect the quality of mealtimes. However, individuals who have severe handicaps may not have much impact on the quality of mealtimes in regard to their food and drink items due to the lack of skills to express relevant preferences and/or

the lack of choice-making opportunities (Wilson, Reid, Phillips, & Burgio, 1984).

The purpose of this investigation was several-fold. First, in Experiment 1 the purpose was to develop and evaluate a means of assessing/training choice-making skills for expressing food and drink preferences among persons with profound mental retardation who had essentially no verbal communication skills. In light of the research findings in other choice-related areas as just summarized, a second purpose of Experiment 1 was to compare results of the structured, behavioral assessment to the more traditional caregiver opinion means of determining client food and drink preferences. A third purpose of Experiment 1 was to socially validate the importance of developing ways to assist persons with severe handicaps to have more choice opportunities regarding food and drink consumption. In Experiment 2 the purpose was to investigate the practicality of the behavioral assessment/training process by evaluating the use of the procedure by routine caregivers of clients with severe handicaps. Relatedly, Experiment 2 evaluated whether results of the formal behavioral assessment would predict client choice-making if clients were provided with more normal choice opportunities during less structured, ongoing mealtimes.

Experiment 1

Method

Participants and setting. Five men (age range of 27 to 43

years) with profound mental retardation (Grossman, 1983) who lived in a residential facility participated in Experiment 1. The participants were ambulatory and nonverbal in terms of interpretable speech. Receptively, each participant responded to simple requests (e.g., please hand me your coat) although compliance was sporadic. Two of the clients, John and Ted, could dress themselves with minimal assistance whereas Todd, Mike and Derek required substantial staff assistance to completely dress themselves. All of the clients could feed themselves although there was considerable food spillage except for Ted who typically ate rather neatly. Four of the five clients displayed maladaptive behavior such as pica, aggression and/or mild self-injury. The clients were selected because they met the criterion of having profound mental retardation. Also, the trainer (certified special education teacher) responsible for the clients' day treatment program had previously expressed an interest in the concept of choice-making for his clients.

Experiment 1 was conducted during the clients' day treatment program which occurred in one room in a building designed for educational and vocational services. The clients attended the program for four hours each day and received training in basic self-care, leisure and vocational skills. The latter services were provided by the trainer just noted and one paraprofessional assistant.

Behavior definitions. The target client behavior was

choosing a food or drink item when provided with two items from which to choose. Specifically, a choice of an item was defined as a client picking up and consuming the item within 10s of the presentation of the item. Conversely, no choice was defined as a client not consuming either item within 10s. A third mutually exclusive category of expulsion was defined as a client spitting out an item; however, expulsion was never observed. Finally, client preference for a respective food or drink item was defined as a client choosing a given item during at least 80% of the presentation trials averaged across sessions (cf. Green et al., 1988; Pace, Ivancic, Edwards, Iwata, & Page, 1985).

Food and drink items targeted for preference assessments. Two primary criteria were used in selecting pairs of food or drink items to assess for respective item preferences. First, items were selected if the two foods or drinks were either routinely available during mealtimes and/or snack times, or the foods and drinks could easily be made available during such times. Second, item pairs were selected that appeared to represent choices that would not be unusual for nonhandicapped persons to make during meals or snack times. The specific pairs of items assessed were black coffee versus coffee with cream and sugar, chocolate pudding versus applesauce, plain toast versus toast with jelly, and banana slices versus corn chips. In addition, a fifth pair of items, chocolate milk versus water, was used with one participant (see explanation in Assessment/training

procedures).

Assessment/training procedures. Assessment/training procedures involved repeated presentations of a pair of food or drink items. A complete assessment/training process for a given pair of items involved 10 sessions with 1 sample trial and 5 assessment/training trials per session. To initiate a session, a client was instructed (and/or escorted) to sit at a table and was told that a choice of food or drink items was going to be presented. Next, a complete serving of each of two items (e.g., black coffee and coffee with cream and sugar) was divided into six equal portions. The assessor/trainer then placed one portion (a cup filled one-sixth full) of each item in front of the client. Also, if the preference to be assessed involved modifying an item with a condiment such as the case of adding cream and sugar to a cup of coffee, then the condiment(s) was added within view of the client prior to placing the items in front of the client. The assessor/trainer then instructed the client to sample both items, while simultaneously placing a small amount of one item and then the other item in the client's mouth. Once the client sampled both items, then another portion (1/6) of both items was placed on the table in front of the client in the same arrangement as the sampled items. Next, the assessor/trainer instructed the client to "pick one" and allowed 10s for the client to make a choice. If the client selected one of the items and consumed it, the assessor/trainer recorded which of the items

the client chose and removed the other item to prepare for the second trial. If the client did not consume either of the two items within 10s, then both items were removed and no choice was recorded. Following this trial, four additional trials were conducted in the same manner to complete one session.

Throughout a given assessment/training session, the right or left side on which a respective food or drink item was placed remained the same for all trials. Maintaining the same location of each item was intended to help the client discriminate between the two items and reduce possible confusion. However, in order to control for a potential confound due to a client tendency to choose an item that was either on the right or left side, the side on which each item of a food or drink pair was presented was counterbalanced across assessment/training sessions. One assessment/training session occurred each weekday per client and generally required less than 10 min to conduct.

As indicated earlier, one purpose of Experiment 1 was to develop a practical and reliable means of assessing choice-making skills for expressing food and drink preferences of persons who are profoundly mentally retarded (and subsequently, to demonstrate that persons with profound mental retardation do indeed have food and drink preferences). As also discussed earlier, if a client chose a given item on 80% or more of the occasions when that item was paired with another item, then a preference for the former item would be considered to exist.

Such an outcome would support the utility of the assessment process for meeting the experimental purpose just noted. In contrast however, if the results demonstrated that a client did not consistently chose one of two items when provided with a choice of the two, then the utility of the assessment process would be less evident. That is, the latter results may indicate that: (a) the client did not have a preference between the two items or, (b) the client did not understand the choice opportunity that was presented (i.e., lack of choice-making skills).

In order to resolve the dilemma just described in terms of not knowing whether a client did not have a preference between two items or that a client lacked skills to comply with the experimental procedures, the process was designed to inherently include a component for training choice-making skills. Specifically, if inconsistent results occurred regarding the selection of one item versus another item throughout an entire assessment, then two other food or drink items would be assessed with the same client. If neither item was selected consistently during the second assessment, then another pair of items would be assessed. This process would be continued until a preference was eventually indicated (hence, the reason for including a fifth item pair with one of the five participants). By continuing the assessment process in this manner, two nonmutually exclusive outcomes were likely if the experimental procedure was valid.

First, the client could be ed in choice-making skills in terms of selecting one of t nsumable items when given the opportunity. The training c b a function of: (a) the sample at the beginning of e ssion w h could serve as a model via the assessor/train e onstrating how to select first one item and then the next f c sumption (by the client), (b) the five trials within each sessi that provided practice for the client in selecting an item a well as in discriminating between two items and, (c) the po ential reinforcement for selecting an item that was likely o occur as a result of consumption of the item. When co sidered in this manner, each assessment for a given pair of it ns involved a total of 10 modeled demonstrations and 50 ra tice trials for making a choice. It was assumed that acro s sessions -- including across sessions with different food and rink item pairs if necessary -- clients would become more profici nt in making a food or drink choice when presented with a ir l-item opportunity.

The second outcome that l occur with the repeated assessment/training process perta ed to the situation in which the lack of consistent selection one item versus another item was not due to a lack of choic -m king skills on the part of the client but rather, simply a f a preference for one of the items. In this situation, the s sment/training sessions would continue until at least one food or drink items was assessed for which the client did *indeed* express a preference for

one of the items. At that point the results would strongly suggest that the client understood the choice situation because a preference had been indicated.

Reliability. Reliability checks regarding observations of client choice-making were conducted by two observers (experimenters) simultaneously and independently observing client responses to the item presentation trials. Reliability checks occurred during 21 sessions, involving all clients and all pairs of food and drink items. Nineteen percent of the checks (four sessions involving four clients) involved a staff assistant as observer who was uninformed regarding the purpose of the study. Throughout all reliability checks (105 trials), there was only one disagreement between observers regarding a client's response to a trial presentation.

Survey of staff opinion of client food preferences. In order to compare staff opinion of the participants' food preferences to the outcome of the behavioral assessment/training process, seven direct care staff from the clients' living area were asked to complete a survey. Each survey form consisted of a five-point rating scale for one of the previously assessed food/drink pairs. Staff were asked to place a mark on the scale that best indicated what they thought a particular client's response would be when provided with a choice between the two respective food or drink items. To illustrate, to assess staff opinion of Todd's response when presented with a choice between

plain toast or toast with jelly, staff were asked to mark one of the following: (a) almost always chooses plain toast, (b) chooses plain toast most of the time, (c) no preference, (d) chooses toast with jelly most of the time or, (e) almost always chooses toast with jelly. Staff were asked to complete survey forms only for those participants with whom the staff routinely worked during mealtimes. In total, three staff completed surveys for John and Mike while four completed surveys for Ted, Derek and Todd.

Social validity survey. In order to validate the social importance of the focus of this research (Kazdin, 1977), a survey was conducted of professionals who were responsible for providing habilitative and/or residential services for persons who have developmental disabilities. Forty-one professionals from four southeastern states who were attending a managerial workshop completed the survey. The individuals held managerial positions in a variety of settings including day treatment programs, institutions and community living arrangements for persons with developmental disabilities. Each individual completed the survey anonymously by responding on a five-point Likert scale to questions regarding the importance of choosing the foods they eat, the importance of persons with severe handicaps choosing the foods they eat, and the relative degree of choice their clients had in choosing the foods they eat.

Results and Discussion

Assessment/training. Using the criterion noted earlier of selecting an item on at least 80% of the presentation trials, results indicated that all clients (eventually) demonstrated choice-making skills and expressed a preference for at least one item when presented with respective item pairs (Figures 1 and 2). Specifically, John preferred toast with jelly over plain toast, Derek preferred pudding over applesauce, Mike preferred pudding over applesauce (only two item pairs are presented for Mike because for the other two, he consistently did not choose either item), Ted preferred banana slices over corn chips, and Todd preferred chocolate milk over water.

Insert Figures 1 and 2 about here

Although each client expressed at least one item preference, only two clients expressed exactly the same preference. Such results reflect that food and drink preferences among persons with profound mental retardation are highly individualized. Also, some clients expressed preferences when presented with the second item pair (Derek, and Mike) whereas one client (John) did not express a preference until the third pair and one (Ted) did not express a preference until the fourth pair. Todd did not express a preference during any of the four target item pairs. Subsequently, staff familiar with Todd's mealtime behavior were asked what he seemed to like more than any other item. Because staff indicated chocolate milk as a favorite of Todd's, a fifth

item pair involving chocolate milk versus water was then assessed/trained and a preference for chocolate milk was demonstrated. In the latter case, as well as with John and Ted, it is not clear whether the individual did not have a preference for an item presented in the first sets of item pairs or that he did not understand the choice task and required training across trials and sessions in the manner described earlier. Nevertheless, by the end of all assessment/training sessions, results indicated that the experimental procedure reliably demonstrated choice-making skills in that specific preferences were identified for each client.

In addition to the results that indicated clear food and/or drink preferences across different item pairs for each client, results for a given item pair also suggested another outcome. Specifically, it appeared that four clients (John, Derek, Ted and Todd) developed a preference (or choice-making skills) <u>during</u> the assessment/training of a given item pair. A developing preference (or skill) was assumed to exist if a client: (a) chose a given item more frequently during the last five sessions of an assessment/training process for a respective item pair than during the first five sessions and, (b) chose the item during at least 80% of the trials for each of the last three sessions. Using these criteria (see Figures 1 and 2), John appeared to develop a preference for coffee with cream and sugar over black coffee, Derek appeared to develop a preference for banana slices

over corn chips, Ted appeared to develop a preference for coffee with cream and sugar over black coffee, and Todd for pudding over applesauce. As with the preference differences between different item pairs for each client though, the latter results within sessions for a specific item pair do not indicate why changes occurred. Again however, results do reflect the validity of the experimental procedures in terms of providing opportunities to express preferences due to demonstrating existing choice-making skills and existing preferences and/or training in choice-making skills and developing preferences over time.

Staff opinion survey. Results of the survey indicated that staff opinion of client (non)preferences for an item within the targeted item pairs did not consistently coincide with the results of the systematic assessment/training process. Overall, there were four (preferred) items that were selected on at least 80% of the assessment/training trials (one each for John, Derek, Mike and Ted -- Todd's preference for chocolate milk over water was not included in the opinion analysis because that item comparison was established based on staffs' previous response to an open-ended question regarding Todd's favorite item). For those four item preferences, only 39% of the staff responses indicated that staff believed those specific items would be chosen more frequently by the respective clients than the items with which they were paired (31% reported the items would be chosen most of the time and 8% indicated almost all of the time).

The most common staff response (33%) was that there would be no preference between the two items. Further, staff indicated clients would choose the other food or drink item (i.e., the item that had been chosen on 20% or less of the assessment/training trials) either most of the time (8%) or almost all of the time (19%). Hence, over one-fourth (27%) of the staff responses indicated the opposite of what the clients actually chose. For those items that clients did not express a preference during the systematic assessment/training sessions, staff opinion coincided a little more closely with the assessment/training results. Across all the latter items, 51% of the staff responses to the survey indicated that the respective client would not have a preference for either item in the pair. However, the remainder of the responses (49%) indicated that staff believed the client would choose one of the items at least most of the time.

In one sense, results concerning staff knowledge of client food and drink preferences seem contradictory. On the one hand, staff reports regarding client preferences for target food or drink items that were presented in specific pairs did not coincide very closely with the results of the systematic assessment/training sessions. On the other hand, when staff who worked with one client (Todd) were questioned regarding his favorite food or drink item and then that item was systematically assessed, the results of the assessment supported staff opinion (i.e., results showed Todd's preference for chocolate milk over

water). However, on closer scrutiny such results are not really contradictory because staff were responding to two different tasks. Specifically, staff may have been knowledgeable about a client's strongest or most general preference in terms of his favorite food or drink item but not very knowledgeable about preferences that may not be as strong and are more specific (i.e., involving a comparison between two experimenter-determined items). The former process is more open-ended for staff and may be useful for targeting most preferred (and least preferred) items out of a large sample of foods and drinks but not for identifying what a client might prefer when presented with two specific items that may be available (or could be made available) during any given meal or snack time.

Social validity survey. Results of the social validity survey (Table 1) supported the focus of this research in two ways. First, results indicated that service providers believe being able to choose one's foods is important for them (93% reported it was at least very important) and for their clients (88% reported at least very important). Second, results indicated that despite the importance the professionals place on client food choices, over 80% reported that their clients with severe handicaps generally have less choice regarding the foods they eat than the nonhandicapped populace (almost half reported that their clients have considerably less choice). Such results support the social importance of research on means of assisting

persons with severe handicaps to increase their active involvement in deciding what foods they consume.

Insert Table 1 about here

Although the importance and efficacy of the assessment/training process seems supported when considering each set of results just summarized, several questions continued to exist with the process. First, because the process was conducted by the experimenters, it could not be concluded that the assessment/training procedure would be useful if conducted by the routine caregivers of the clients as part of ongoing treatment services. In this regard, if a therapeutic procedure is to significantly benefit very many persons who have handicaps then the procedure must be amenable to proficient implementation by routine caregivers of clients and not just trained researchers (Reid, 1987, chap. 1). Second, because of the highly structured manner in which the assessment/training process was carried out in the classroom (e.g., one assessor/trainer with one client in a corner of the classroom, repeated trials per session), it could not be concluded that the preference results would necessarily be predictive of client choice-making skills and preferences if the clients were provided with more normal choice opportunities during less structured, routine mealtimes. Experiment 2 was conducted to address these two questions.

Experiment 2

Method

Participants and setting. Fourteen clients from the same residential living unit as the clients in Experiment 1 participated in Experiment 2. Each client was profoundly mentally retarded, with adaptive skills and maladaptive behaviors very similar to those characteristic of the participants in Experiment 1. In addition, five staff participated as assessors/trainers, including two certified special education teachers and three paraprofessional assistants. These staff represented the entire group of personnel who provided the clients' day treatment services in the educational/vocational program described in Experiment 1. In total, the 14 clients and staff were grouped into four separate training groups in four classrooms (which also served other clients in addition to the target clients).

Food and drink items targeted for preference assessments. The same criteria used in Experiment 1 to select food and drink items were employed in Experiment 2. Additionally, the clients' trainers/assessors and residential caregivers were questioned regarding what they thought constituted a respective client's favorite food or drink item. The latter criterion was included in an attempt to expedite the assessment process by increasing the likelihood that item pairs would include a food or drink item for which a client had an existing preference. Again, the purpose of

Experiment 2 was to demonstrate that when the experimental process was conducted by the clients' routine staff, the process would still reliably demonstrate client choice-making skills, and such a demonstration could not occur unless a client did indeed express a preference (see discussion in Method in Experiment 1). In this regard, results of Experiment 1 provided some support in respect to staffs' ability to identify a preference if the staff were asked to describe a given client's favorite or most preferred item. Nine food and drink pairs were assessed across the 14 clients.

Assessment/training procedures. The assessment/training procedures used with the clients were the same as the procedures used in Experiment 1. Additionally, in order to involve staff who routinely worked with the clients in the assessment/training process, a staff training component was included to teach the staff how to apply the procedures. The staff training involved five steps based on a generic, behavioral staff training model (Reid, Parsons, & Green, 1989, chap. 3). First, the experimenters met with the staff to discuss the rationale for evaluating and training client choice-making skills. Second, a brief written handout was provided to the staff that outlined the assessment/training procedures. Third, the experimenter met individually with each staff member and modeled the assessment/training procedures. Fourth, the experimenter observed the staff member practice conducting a session. Finally, the

experimenter provided verbal feedback to the staff member contingent on his/her proficiency in conducting the procedures. The fourth and fifth components were repeated until all staff successfully conducted an assessment/training session. Staff training required from two to four individual meetings across staff members.

Once staff were trained to conduct assessment/training sessions, the experimenter continued to interact with each staff person to periodically assist (and prompt) him/her to conduct sessions. In this regard, the intent was not to totally withdraw the experimenter's involvement, but rather to ensure through appropriate supervision that the assessment/training sessions were indeed conducted by the staff and to fill in for the staff by conducting sessions for them when they were unable to complete sessions due to competing duties, absences, etc. Nevertheless, each staff member was required to conduct independent sessions with each of the target clients within his/her caseload.

Generalization assessments. To evaluate the predictability of the classroom assessment/training regarding client choice-making skills and preferences during regularly occurring mealtimes, generalization assessments were conducted with the first five clients who demonstrated a clear preference (i.e., selected the same food or drink item during 80% or more of the trials) in the classroom. A generalization session was initiated after a client was seated at his/her table during lunch in the regular dining

room of the client's living unit. Generally each client sat at a table with two or three other clients, with approximately nine other clients at other tables in the dining room. The generalization assessment involved individually presenting the client with two food or drink items, instructing the client to sample both items and then requesting the client to choose an item in a manner identical to the first assessment/training trial conducted during classroom sessions. The items presented to each client constituted the same item pair that had previously been assessed in the classroom and with which each client had shown a preference for one of the items. In contrast to the assessment/training sessions in the classroom that included five trials however, the session in the dining room during an ongoing meal involved only one trial. The rationale for limiting the number of trials in the dining room was twofold. First, one opportunity to make a choice between two food or drink items more closely resembles the way in which choice opportunities are routinely presented to (nonhandicapped) people during normal mealtimes. Second, conducting five trials following the initial sampling of both food or drink items would be relatively time consuming and could reduce the likelihood that caregivers would provide frequent choice opportunities routinely during mealtimes due to the time and effort involved. Hence, an attempt was made to keep the dining room assessments brief and easy to conduct. Generalization sessions were conducted by two of the previously

trained staff from the day treatment program (these staff regularly worked in the dining room during mealtimes) with supervision by an experimenter. One assessment session (i.e., one trial) was conducted per day. If a preference was apparent after the first six generalization sessions with an individual client (i.e., he/she chose an item on at least 80% of the trials), the sessions were terminated. If a preference was not apparent after six sessions, a maximum of four additional sessions were conducted.

Reliability. Observations of client food and drink choices in the classroom were conducted by the staff who implemented the assessment/training sessions. Reliability checks were conducted as in Experiment 1 by an experimenter during 24 classroom sessions, including during at least one session for every staff person and every client. Across all reliability checks (120 trials) there were only three disagreements regarding a client's choice. During generalization assessments in the dining room, reliability checks were conducted at least one time for every client and no disagreements were recorded.

Results and Discussion

Assessment/training. Results indicated that the five staff who were the routine day treatment providers for the clients were able to appropriately conduct the behavioral assessment/training procedures and provide each client with an opportunity to make a choice and express a distinct food or drink preference. Table 2

summarizes the results of the assessment/training sessions for 13 clients. As indicated in Table 2, 11 clients demonstrated a preference during the assessment/training of the first food or drink item pair whereas two did not demonstrate a preference until the assessment/training of the second item pair. One client's data are not provided in Table 2. This client did not comply with the assessment/training process per se in that she consistently attempted to reach for a specific item immediately upon sitting at the table. Hence, there appeared to be no need to attempt formal assessment/training trials because she was already clearly expressing a preference.

Insert Table 2 about here

Generalization assessments. Results of the generalization assessments indicated that the assessment/training process conducted in the classroom was generally very predictive of clients' choice-making when clients were provided with a more normal opportunity to express a preference during routine meals (Figure 3). All five clients chose the item that was previously demonstrated as preferred during the classroom sessions considerably more frequently than the other item when both items were presented at the beginning of a meal. Four clients chose their previously assessed, preferred item on at least 80% of the trials during mealtimes in the dining room. One client, Kim,

chose the previously preferred item on 70% of the trials (7 out of 10 trials).

Insert Figure 3 about here

General Discussion

Results of the two experiments suggest a means through which one aspect of the quality of life -- snacks and mealtimes -- of persons who have severe handicaps may be made more enjoyable. Across the two experiments, the assessment/training procedure demonstrated that 18 nonverbal clients could respond to the systematic choice opportunity and express clear preferences. Once food and drink preferences have been identified in this manner, then persons who are nonverbal and profoundly mentally retarded can be provided with more meal or snack items that they prefer. The importance of these results seems heightened when considering that the more traditional means of assessing specific item preferences by questioning caregivers did not reliably predict what clients would actually choose. Further, the demonstration that the routine day treatment providers for the clients could successfully conduct assessment/training sessions and demonstrate client choice-making skills and preferences supports the practicality of the procedure.

In Experiment 1 it was suggested that although caregivers may not be very accurate in judging specific food or drink

preferences when clients have the opportunity to choose between two items, the caregivers may be more accurate in identifying one item that is highly preferred by clients relative to many other items in general. The relative immediacy with which clients demonstrated a preference in Experiment 2 tends to support the latter notion. That is, whereas none of the five clients in Experiment 1 demonstrated a preference among the first item pair presented, 11 of 13 clients in Experiment 2 demonstrated a preference among the first item pair; only the items assessed in Experiment 2 included a favorite item based on caregiver opinion. These results have several practical implications in terms of potentially enhancing the enjoyment that persons with profound mental retardation experience with snacks and mealtimes. First, caregivers could identify a highly preferred or favorite item to frequently provide during meals when possible. Second, routinely available food or drink items that caregivers do not identify as a favorite item could be formally assessed during educational or habilitative treatment programs using the procedures described in this investigation. Subsequently, items that eventually are demonstrated as preferred could be provided more frequently during snacks and mealtimes (and nonpreferred items could be provided less frequently). Third, because it is inconceivable that all potential combinations of food or drink items could be assessed, as a new or nonassessed item is made available during snacks and mealtimes a quick preference sampling could be

conducted by pairing the item with another available item as exemplified in the generalization sessions. However, before conducting an assessment similar to what occurred during the generalization assessments, the more comprehensive assessment/training procedure should be implemented to ensure that a client can appropriately respond to the choice situation (i.e., the client should be assessed/trained across item pairs until a preference has been demonstrated such that it would appear that a client could understand a paired-item choice opportunity).

The importance of the repeated, structured assessment/training sessions with food and drink items as just noted coincides with the importance noted earlier of conducting systematic, behavioral preference assessments in other areas with persons who are nonverbal and profoundly mentally retarded. Also, an additional indication of problems that may arise if a systematic approach to assessing preferences is not conducted (in addition to the problems noted with reliance on caregiver opinion) is presented with Mike's results in Experiment 1. Mike tended to favor a given side on which an item was placed with some item pairs more than the difference between the items. Specifically, when presenting black coffee versus coffee with cream and sugar, Mike chose whatever was presented on the right side 94% of the time. Such an outcome has also been noted with other clients who are currently participating in

assessment/training sessions independent of this study as part of their day treatment program. If a less systematic assessment process is used in which the side an item is placed on is not counterbalanced, an erroneous conclusion regarding a client's preference could result.

The assessment/training process evaluated here only targeted a sample of the types of choice-making opportunities and preferences that could be investigated during snacks and mealtimes. Future research seems warranted to evaluate how to assist nonverbal clients with profound mental retardation in making other types of choices such as, for example, specific preparation of foods (e.g., scrambled eggs versus fried eggs), and use or nonuse of condiments. Of course, practical and effective means of teaching individuals who are profoundly mentally retarded to independently and spontaneously communicate their preferences without structured preference assessments conducted by staff continue to warrant the attention of researchers. However, it is also possible that the handicaps of some persons may be so seriously debilitating that we do not possess a sufficient technology for teaching them a comprehensive set of communication skills to use independently and spontaneously (cf. Bailey, 1981). For the latter population it seems that choice-making opportunities provided proficiently by staff represent an alternative means of allowing individuals with very debilitating handicaps to enhance the enjoyment

they receive during snacks and mealtimes.

References

Bailey, J.S. (1981). Wanted: A rational search for the limiting conditions of habilitation in the retarded. Analysis and Intervention in Developmental Disabilities, 1, 45-52.

Dattilo, J., & Rusch, F.R. (1985). Effects of choice on leisure participation for persons with severe handicaps. Journal of The Association for Persons with Severe Handicaps, 10, 194-199.

Favell, J.E., & Cannon, P.R. (1976). Evaluation of entertainment materials for severely retarded persons. American Journal of Mental Deficiency, 81, 357-361.

Green, C.W., Reid, D.H., White, L.K., Halford, R.C., Brittain, D.P., & Gardner, S.M. (1988). Identifying reinforcers for persons with profound handicaps: Staff opinion versus systematic assessment of preferences. Journal of Applied Behavior Analysis, 21, 31-43.

Grossman, H.J. (Ed.) (1983). Classification in Mental Retardation. Washington, DC: American Association on Mental Deficiency.

Guess, D., Benson, H.A., Siegel-Causey, E. (1985). Concepts and issues related to choice-making and autonomy among persons with severe disabilities. Journal of The Association for Persons with Severe Handicaps, 10, 79-86.

Houghton, J., Bronicki, G.J.B., & Guess, D. (1987). Opportunities to express preferences and make choices among students with severe disabilities in classroom settings.

Journal of The Association for Persons with Severe Handicaps, 12, 18-27.

Kazdin, A.E. (1977). Assessing the clinical or applied importance of behavior change through social validation. Behavior Modification, 1, 427-452.

Mithaug, D.E., & Hanawalt, D.A. (1978). The validation of procedures to assess prevocational task preferences in retarded adults. Journal of Applied Behavior Analysis, 11, 153-162.

Mithaug, D.E., & Mar, D.K. (1980). The relation between choosing and working prevocational tasks in two severely retarded young adults. Journal of Applied Behavior Analysis, 13, 177-182.

Pace, G.M., Ivancic, M.T., Edwards, G.L., Iwata, B.A., & Page, T.J. (1985). Assessment of stimulus preference and reinforcer value with profoundly retarded individuals. Journal of Applied Behavior Analysis, 18, 249-255.

Parsons, M.B., Reid, D.H., Reynolds, J., & Bumgarner, M. (1989). Effects of chosen vs. assigned jobs on the work performance of persons with severe handicaps. Manuscript submitted for publication.

Perske, R., Clifton, A., McLean, B.M., & Stein, J.I. (1977). Mealtimes for severely and profoundly handicapped persons: New concepts and attitudes. Baltimore: University Park Press.

Reid, D.H. (1987). Developing a research program in human service agencies: A practitioner's guidebook. Springfield, IL: Charles C. Thomas.

Reid, D.H., & Hurlbut, B. (1977). Teaching nonvocal communication skills to multihandicapped retarded adults. Journal of Applied Behavior Analysis, 10, 591-603.

Reid, D.H., Parsons, M.B., & Green, C.W. (1989). Staff management in human services: Behavioral research and application. Springfield, IL: Charles C. Thomas.

Shevin, M., & Klein, N.K. (1984). The importance of choice-making skills for students with severe disabilities. Journal of The Association for Persons with Severe Handicaps, 9, 159-166.

Wacker, D.P., Berg, W.K., Wiggins, B., Muldoon, M., & Cavanaugh, J. (1985). Evaluation of reinforcer preferences for profoundly handicapped students. Journal of Applied Behavior Analysis, 18, 173-178.

Wilson, P.G., Reid, D.H., Phillips, J.F., & Burgio, L.D. (1984). Normalization of institutional mealtimes for profoundly retarded persons: Effects and noneffects of teaching family-style dining. Journal of Applied Behavior Analysis, 17, 189-201.

Author Notes

Appreciation is expressed to Rod Realon and Ed Konarski for their helpful comments on an earlier draft of the paper, to the Spruce Unit educators of Western Carolina Center for their efforts in conducting the procedures, and to Carole Daves for her competence in preparing the manuscript.

Requests for reprints can be addressed to either author at Western Carolina Center, Morganton, NC 28655.

Table 1

Questions and Responses to Social Validity Questionnaire

Question	Response Category	Percentage of Managers' Responses
How important is it to you to be able to choose the foods you eat?	Extremely important	61%
	Very important	32%
	Moderately important	7%
	A little important	0%
	Not important at all	0%
How important do you think it is for people with severe handicaps to be able to choose the foods they eat?	Extremely important	49%
	Very important	39%
	Moderately important	12%
	A little important	0%
	Not important at all	0%
In your service setting, how much choice do your clients with severe handicaps have regarding the foods they eat relative to the nonhandicapped populace?	Considerably more choice than the nonhandicapped populace	0%
	Somewhat more choice than the nonhandicapped populace	3%
	Same amount of choice as the nonhandicapped populace	15%
	Somewhat less choice than the nonhandicapped populace	40%
	Considerably less choice than the nonhandicapped populace	43%

Table 2

Food and Drink Items Targeted for Preference Assessment

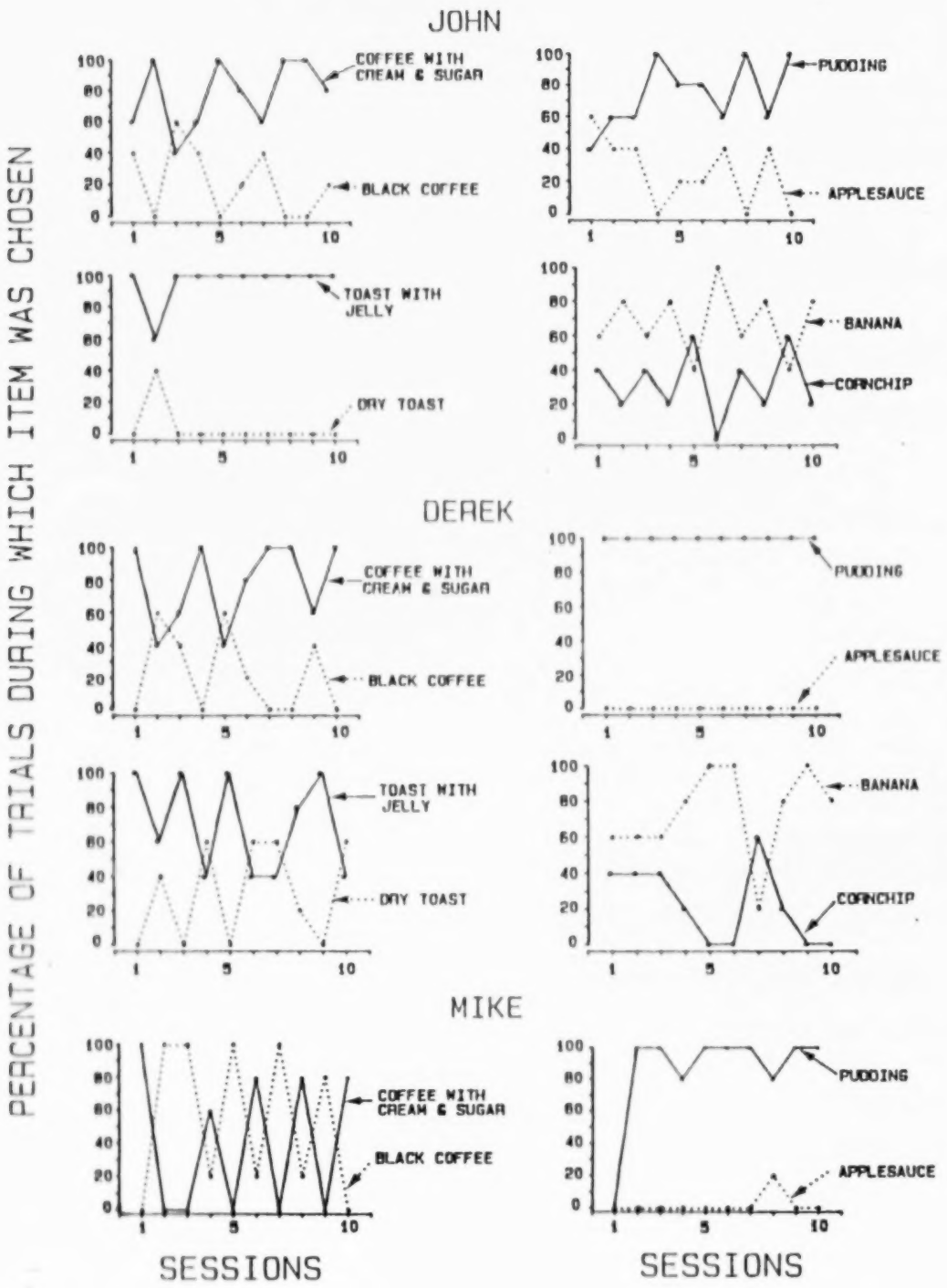
Client	First Item Pair	Preferred Item (% Chosen)	Second Item Pair	Preferred Item (% Chosen)
Don	marshmallow/ cornchip	marshmallow (94)		
Stuart	marshmallow/ cornchip	cornchip (96)		
Tommy	raisins/ cheetos	cheetos (91)		
Harry	coke/milk	coke (96)		
Mary Beth	coke/milk	coke (80)		
Sondra	crackers/ raisins	crackers (96)		
Sandra	water/coke	no preference	peanut butter crackers/ carrots	peanut butter crackers (98)
~~Kathy~~ Kim	coke/milk	coke (94)		
~~Katie~~ Kelly	coke/milk	coke ([illegible] 98)		
Donna	celery/ raisins	celery (94)		
David ~~Bobby~~	coke/milk	coke (88)		
Dorothy	coke/milk	coke (90)		
Sherry	coke/milk	no preference	cheese slice/ cornchip	cheese slice (100)

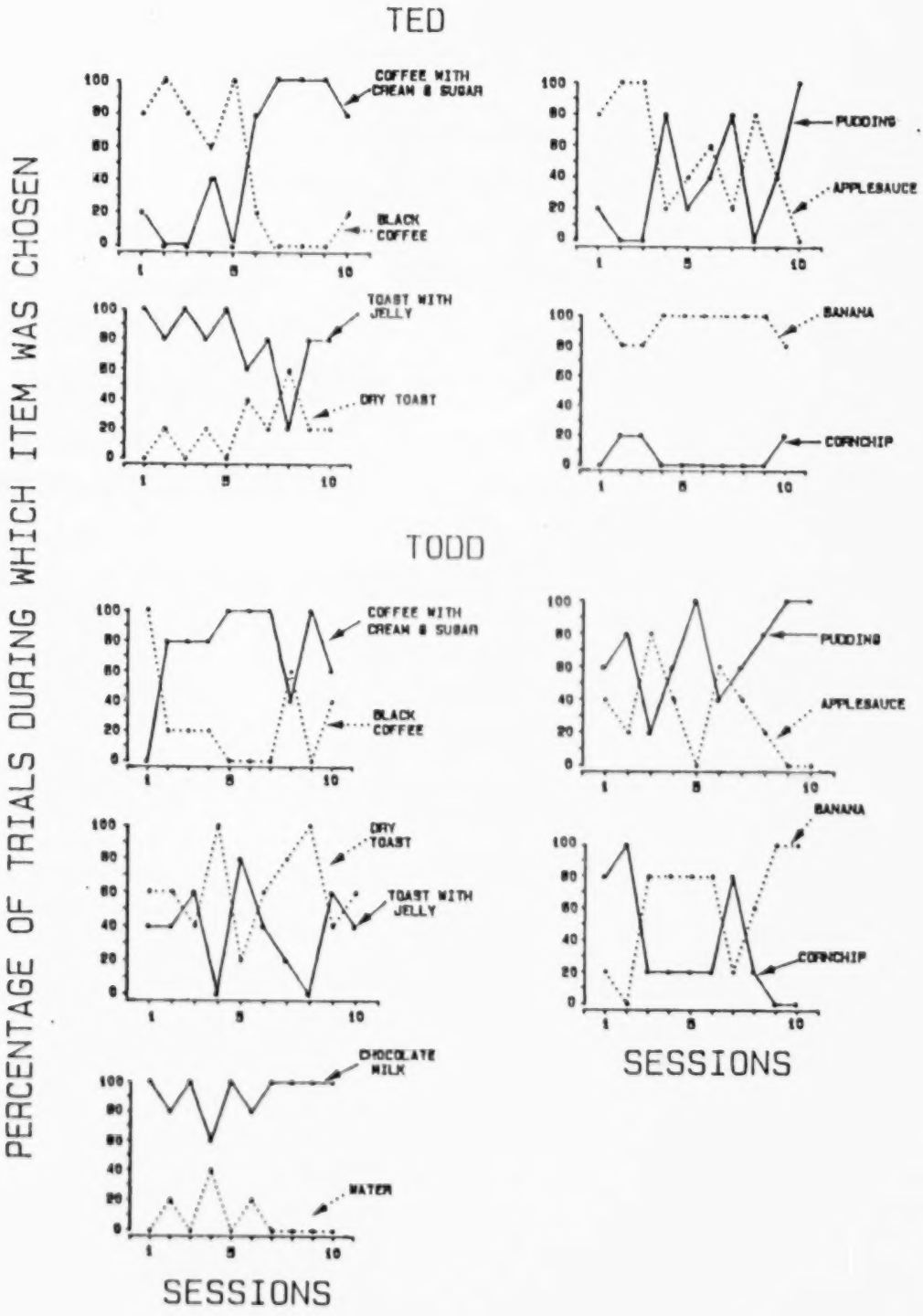
Figure Captions

Figure 1. Percentage of assessment/training trials during which each food or drink item was selected during each session by each of three clients for target item food and drink pairs.

Figure 2. Percentage of assessment/training trials during which each food or drink item was selected during each session by each of two clients for target item food and drink pairs.

Figure 3. Percentage of assessment/training trials during which each food or drink item was selected when conducted in the classroom and (generalization) dining room situations for each of five clients.


JOHN
DEREK
MIKE
PERCENTAGE OF TRIALS DURING WHICH ITEM WAS CHOSEN
SESSIONS
SESSIONS
COFFEE WITH CREAM & SUGAR
BLACK COFFEE
TOAST WITH JELLY
DRY TOAST
PUDDING
APPLESAUCE
BANANA
CORNCHIP
0
20
40
60
80
100
1
5
10


TED
COFFEE WITH CREAM & SUGAR
BLACK COFFEE
PUDDING
APPLESAUCE
TOAST WITH JELLY
DRY TOAST
BANANA
CORNCHIP
TODD
COFFEE WITH CREAM & SUGAR
BLACK COFFEE
PUDDING
APPLESAUCE
DRY TOAST
TOAST WITH JELLY
BANANA
CORNCHIP
CHOCOLATE MILK
WATER
PERCENTAGE OF TRIALS DURING WHICH ITEM WAS CHOSEN
SESSIONS
SESSIONS